MULTIMEDIA UNIVERSITY

STUDENT IDENTIFICATION NO

MULTIMEDIA UNIVERSITY

FINAL EXAMINATION

TRIMESTER 1, 2018/2019

BDS3024 – BUSINESS INTELLIGENCE

(All sections / Groups)

18 OCTOBER 2018
2.30 p.m – 4.30 p.m
(2 Hours)

INSTRUCTIONS TO STUDENT

1. This question paper consists of 4 pages with 5 questions only.
2. Attempt **ALL** questions. The distribution of the marks for each question is given.
3. Please write all your answers in the Answer Booklet provided.

QUESTION 1

i. Describe and define Big Data. (6 marks)

ii. Why is a search engine considered a Big Data application? (6 marks)

(Total: 12 marks)

QUESTION 2

Describe and provide **ONE** (1) example for each of the following types of service:

(i) Data as a Service (DaaS) (6 marks)

(ii) Software as a Service (SaaS) (6 marks)

(iii) Platform as a Service (PaaS) (6 marks)

(iv) Infrastructure as a Service (IaaS) (6 marks)

(Total: 24 marks)

QUESTION 3

Describe and provide **ONE (1)** example for each of the following types of business analytics.

(i) Descriptive analytics (6 marks)

(ii) Predictive analytics (6 marks)

(iii) Prescriptive analytics (6 marks)

(Total: 18 marks)

QUESTION 4

Discuss **ONE (1)** difference between text mining and Web mining.

(Total: 6 marks)

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CASE STUDY

THE RESTAURANT INDUSTRY EATS UP BUSINESS INTELLIGENCE

On November 15, 2004, CKE Restaurants, the company that owns and operates Hardee's, went against every health-kick fad and began selling the Monster Thickburger. With two-thirds of a pound of Angus three slices of cheese, four strips of bacon, and mayonnaise on a buttery sesame seed bun, the Monster Thickburger contains 1,420 calories and 107 grams of fat. From a pure health point of view, the burger is so bad for you that one nutrition advocacy group referred to it as "the fast food equivalent of a snuff film." Even Jay Leno made jokes about it on *The Tonight Show*.

But none of that stopped CKE from rolling out the huge burger in 2004. And since then, nothing has stopped the sale of the burger. In December of 2004, sales were up 5.8 percent for Hardee's stores that had been open for at least a year. According to Brad Haley, Hardee's executive vice president of marketing, "... the Monster Thickburger was directly responsible for a good deal of that increase." So, why did CKE take a huge risk of offering a huge burger that had such huge health risks? It relied on business intelligence.

CKE's business intelligence system is called CPR (there has to be some irony there), which stands for CKE Performance Reporting. In test markets, CKE used its Bl system to determine if the Monster Thickburger was actually contributing to sales or simply cannibalizing sales of less desirable burgers. The CPR system was also used to evaluate a number of other factors including menu mix, production cost of the Monster Thickburger, gross profits and total sales for each store, unit volume comparisons for the Monster Thickburger and other burgers, and finally the contribution margin made by each menu item. In the end, the business intelligence foretold of the nationwide success of the Monster Thickburger. And it wasn't wrong.

Many other restaurants are also using business intelligence systems to make important business decisions (and make money).

In June 2003, on the basis of its business intelligence, Wendy's made the decision to begin accepting credit cards. Typically, orders at fast-food restaurants like Wendy's are for less than $10. Each credit card transaction carries with it a processing fee and that fee cuts deeply into the profit margin on orders that are less than $10. Wendy's business intelligence, however, pointed out that people paying with a credit card were more likely to spend more money than those paying with cash. It turned out to be true. Customers who use a credit card to pay for an order spend (on the average) 35 percent more than people paying with cash. Interestingly enough, there are still fast-food restaurants that won't accept credit cards.

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Carlson Restaurant Worldwide, the company that owns and operates T.G.I. Friday's and Pick Up Stix restaurants, used its business intelligence system to help reduce costs. Carlson's Bl system is a sort of best-of-breed collection of tools including analytical tools from Cognos (www.cognos.com) and Hyperion (www.hyperion.com), a data warehouse from Oracle (www.oracle.com), and reporting tools from Microsoft (www.microsoft.com). With this collection of tools, key decision makers at Carlson were able to identify that there were problems in its supply chain. It seems that there was a discrepancy between contract prices and the prices actually charged to the restaurants by suppliers. Carlson renegotiated its contracts, which saved the company $200,000 in just one year.

Nick Ibrahim, CIO of Ruby Tuesday, used a business intelligence system to evaluate underperforming restaurants. At one particular restaurant the business intelligence pointed out that table turnover was 55 to 60 minutes, compared to the average of about 45 minutes. Upon closer inspection, Nick was able to reengineer the kitchen so that orders could be prepared faster, thus enabling customers to get their meals quicker and leave the restaurant sooner. It wasn't that there was insufficient demand to support the restaurant. It was simply that the restaurant could not efficiently respond to the demand that was there.

Sources: Chapter 2 Case Study, Management Information for the Information Age, McGrawHill, Haag p96.

QUESTION 5

i. Which was the focus of the system, a top-line initiative or a bottom-line initiative? Justify your answer. (5 marks)

ii. Carlson's BI solution is to use a best-of-breed approach and select technologies from multiple vendors. What are the potential downsides to such an approach? (5 marks)

iii. Think for a moment about the business intelligence used by CKE to determine to launch the successful Monster Thickburger. Create a list of **THREE (3)** probable information elements of that business intelligence. For each, identify whether it is internal information or external information. (6 marks)

iv. Ruby Tuesday used business intelligence to shorten table turnover time. Which of Porter's Five Forces does this affect? Describe and identify **TWO (2)** forces. (6 marks)

v. Wendy's approach to using business intelligence foretold a better yield on the purchases of its credit card-paying customers.

a. Is this a top-line initiative or a bottom-line initiative? (6 marks)

b. What if the costs of accepting credit cards for payments outweigh the incremental revenues gained? Should Wendy's still do it? (6 marks)

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c. What if all the competitors are accepting credit card payments? (6 marks)

(Total: 40 marks)

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